# Respirators

WAC 296-842-300

## **Definitions**

The following definitions apply to this chapter:

## Air-purifying respirator (APR)

- A respirator equipped with an air-purifying element such as a filter, cartridge, or canister,
  or having a filtering facepiece, for example, a dust mask.
- The element or filtering facepiece is designed to remove specific contaminants, such as particles, vapors, or gases, from air that passes through it.

## Air-line respirator

- An atmosphere-supplying respirator for which breathing air is drawn from a source separate from and not worn by the user, such as:
  - A cylinder or a tank
  - A compressor
- An uncontaminated environment.

## Air supplied respirator (see air-line respirator)

## **Assigned protection factor (APF)**

- Indicates the expected level of workplace respiratory protection **when** the respirator is:
  - Functioning properly

#### and

- Fitted to the user

#### and

- Worn by trained individuals

#### and

- Used with the limitations specified on the NIOSH approval label.

## **Atmosphere-supplying respirator**

- A respirator that supplies the user with breathing air from sources, such as:
- A cylinder or a tank
- A compressor
- An uncontaminated environment.



# Respirators

## **Definitions**

## Breathing air

Air supplied to an atmosphere-supplying respirator. This air meets the specifications found in WAC 296-842-200.

## Canister or cartridge (air-purifying)

Part of an air-purifying respirator that consists of a container holding materials such as fiber, treated charcoal, or a combination of the two, that removes contaminants from the air passing through the cartridge or canister.

## Cartridge respirator (see also air-purifying respirator)

An air-purifying respirator equipped with one or more cartridges. These respirators have a facepiece made from silicone, rubber **or** other plastic-like materials.

## **Demand respirator**

An atmosphere-supplying respirator that sends breathing air to the facepiece only when suction (negative pressure) is created inside the facepiece by inhalation. Demand respirators are "negative pressure" respirators.

#### **Dust mask**

A name used to refer to filtering-facepiece respirators. Dust masks may or may not be NIOSH certified. See filtering facepiece.

## **Emergency respirator**

Respirators suitable for rescue, escape, or other activities during emergency situations.

## **Emergency situation**

Any occurrence that could **or** does result in a significant uncontrolled release of an airborne contaminant. Causes of emergency situations include, but aren't limited to, equipment failure, rupture of containers, or failure of control equipment.

## End-of-service-life indicator (ESLI)

A system that warns the air-purifying respirator user that cartridges or canisters must be changed. An example of an ESLI is a dot on the respirator cartridge that changes color.



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## **Definitions**

## **Escape-only respirator**

A respirator that can only be used to exit during emergencies. Look for this use limitation on the respirator's NIOSH approval label.

## Exposed, or exposure

The contact an employee has with a toxic substance, harmful physical agent, or oxygen deficient condition. Exposure can occur through various routes of entry, such as inhalation, ingestion, skin contact, or skin absorption.

#### **Filter**

Fibrous material that removes dust, spray, mist, fume, fog, smoke particles, **or** other aerosols from the air.

## Filtering-facepiece respirator

A tight-fitting, half-facepiece, negative-pressure, particulate air-purifying respirator with the facepiece **mainly** composed of filter material. These respirators don't use cartridges or canisters and may have sealing surfaces composed of rubber, silicone or other plastic-like materials. They are sometimes referred to as "dust masks."

#### Fit factor

A number providing an estimate of fit for a particular respiratory inlet covering to a specific individual during quantitative fit testing.

#### Fit test (see also qualitative fit test and quantitative fit test)

Fit testing is an activity where the facepiece seal of a respirator is challenged, using a WISHA accepted procedure, to determine if the respirator provides an adequate seal.

## Full-facepiece respirator

A tight-fitting respirator that covers the wearer's nose, mouth, and eyes.

#### Gas mask

An air-purifying respirator equipped with one or more canisters. These respirators have a facepiece made from silicone, rubber or other plastic-like materials.





## **Definitions**

## Half-facepiece respirator

A tight-fitting respirator that only covers the wearer's nose and mouth.

#### Helmet

The rigid part of a respirator that covers the wearer's head **and** also provides head protection against impact or penetration.

## High-efficiency particulate air filter (HEPA)

A powered air purifying respirator (PAPR) filter that removes at least 99.97% of monodisperse dioctyl phthalate (DOP) particles with a mean particle diameter of 0.3 micrometer from contaminated air.

#### Note:

Filters designated, under 42 CFR Part 84, as an "N100," "R100," or "P100" provide the same filter efficiency (99.97%) as HEPA filters.

#### Hood

The part of a respirator that completely covers the wearer's head and neck AND may also cover some or all of the shoulders and torso.

## Immediately dangerous to life or health (IDLH)

An atmospheric condition that would:

Cause an immediate threat to life

or

Cause permanent or delayed adverse health effects

or

• Interfere with an employee's ability to escape.

## Licensed health care professional (LHCP)

An individual whose legally permitted scope of medical practice allows him or her to provide **some or all** of the health care services required for respirator users' medical evaluations.





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## **Definitions**

### Loose-fitting facepiece

A respiratory inlet covering that is designed to form a partial seal with the face.

## **Negative-pressure respirator**

Any tight-fitting respirator in which the air pressure inside the facepiece is less than the air pressure outside the respirator during inhalation.

#### NIOSH

The National Institute for Occupational Safety and Health. NIOSH is the federal agency that certifies respirators for occupational use.

## Oxygen deficient

An atmosphere with an oxygen content below 19.5% by volume.

## Permissible exposure limit (PEL)

Permissible exposure limits (PELs) are employee exposures to toxic substances or harmful agents that must not be exceeded. PELs are specified in applicable WISHA rules.

## Positive-pressure respirator

A respirator in which the air pressure inside the respiratory-inlet covering is greater than the air pressure outside the respirator.

## Powered air-purifying respirators (PAPRs)

An air-purifying respirator equipped with a blower that draws ambient air through cartridges or canisters. These respirators, as a group, are **not** classified as positive pressure respirators and must not be used as such.

## Pressure-demand respirator

A positive-pressure atmosphere-supplying respirator that sends breathing air to the respiratory inlet covering when the positive pressure is reduced inside the facepiece by inhalation or leakage.





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## **Definitions**

## Qualitative fit test (QLFT)

A test that determines the adequacy of respirator fit for an individual. The test relies on the employee's ability to detect a test substance. Test results are either "pass" or "fail."

## Quantitative fit test (QNFT)

A test that determines the adequacy of respirator fit for an individual. The test relies on specialized equipment that performs numeric measurements of leakage into the respiratory inlet covering. Test results are used to calculate a "fit factor."

## Respiratory hazard

Harmful airborne hazards and oxygen deficiency that are addressed in chapter 296-841 WAC, Respiratory Hazards.

## Required use

Respirator use:

That is necessary to protect employees from respiratory hazards

or

• That the employer decides to require for his or her own reasons. For example, the employer decides to follow more rigorous exposure limits.

## Respirator

A type of personal protective equipment designed to protect the wearer from harmful airborne hazards, oxygen deficiency, or both.

## Respiratory inlet covering

The part of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source or both. The respiratory inlet covering may be a facepiece, helmet, hood, suit, or mouthpiece respirator with nose clamp.

#### Seal check

Actions conducted by the respirator user each time the respirator is put on, to determine if the respirator is properly seated on the face.



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## **Definitions**

## **Self-contained breathing apparatus (SCBA)**

An atmosphere-supplying respirator designed for the breathing air source, to be carried by the user.

#### Service-life

The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer. For example, the period of time that sorbent cartridge is effective for removing a harmful substance from the air.

#### Sorbent

Rigid, porous material, such as charcoal, used to remove vapor or gas from the air.

### **Supplied-air respirator** (see air-line respirator)

## **Tight-fitting facepiece**

A respiratory inlet covering forming a complete seal with the face **or** neck. Mouthpiece respirators aren't tight-fitting facepieces.

## Voluntary use

Respirator use that is requested by the employee  ${\bf and}$  permitted by the employer when  ${\bf no}$  respiratory hazard exists.



# **Notes**